

GENERAL SUBJECT: Materials Technician Certification		NUMBER: MD 273 - 06
SPECIFIC SUBJECT: Section 115 Materials Technician Certification Schools Program		DATE: March 31, 2006
DIRECTED TO: District Administrators	SIGNATURE: Andrew Mergenr Signature on original cop	meier, PE ny of memorandum

The Materials Division is responsible for the training and certification of technicians in the areas of Asphalt, Concrete, Aggregates, Soils and Pavement Markings.

The following program guide documents how the Division implements the Materials Certification Program. While this guide has been in existence since the inception of the program in the late 1960s, it was always a stand alone document. The purpose of this MD is to include the Program Guide as part of the Materials Division Manual of Instructions.

Components of the Materials Certification Program are expected to change every year and these changes will be communicated in the annual Brochure. Items such as points of contact, schedules and cost will be included in this Brochure. Items that are not expected to change will be a part of the program guide in the Manual of Instructions.

The Following sections are to be added:

#### CHAPTER I GENERAL INSTRUCTIONS

#### SECTION 115 MATERIALS TECHNICIAN CERTIFICATION PROGRAM

- Sec 115.01 SPECIFICATION REQUIREMENTS
- Sec 115.02 CERTIFICATION APPLICATION
- **Sec 115.03 CERTIFICATION TITLES**
- Sec 115.04 STEPS REQUIRED FOR CERTIFICATION
- Sec 115.05 RECERTIFICATION
- Sec 115.06 EXTENSIONS
- Sec 115.07 SUSPENSION AND REVOCATION OF CERTIFICATION
- Sec 115.08 EXEMPT CERTIFICATION STATUS
- Sec 115.09 PROGRAM INSTRUCTORS

Sec 115.10 PROGRAM EVALUATION

Sec 115.11 STUDY GUIDES

Sec 115.12 SCHEDULING

Sec 115.13 CLASS CANCELLATIONS

Sec 115.14 FEES FOR SCHOOLS

Sec 115.15 REFUNDS

Sec 115.16 MID-ATLANTIC REGIONAL TECHNICIAN CERTIFICATION PROGRAM (MARTCP)

**Appendix E – Application for VDOT Materials Technician Certification** 

## SECTION 115 MATERIALS TECHNICIAN CERTIFICATION PROGRAM

The Materials Certification Program is offered by the Materials Division of the Virginia Department of Transportation for individuals who wish to receive training and certification in the areas of Hydraulic Cement Concrete, Asphalt Concrete, Soils, Aggregate and Pavement Marking. The goal is to provide on-going training in materials technology for industry and Department employees for the purpose of providing a competent workforce. These workers are involved in the production, utilization, acceptance, testing and inspection of materials used in the Commonwealth's transportation infrastructure.

To attain this goal the Certification Programs objectives are:

Provide technical training to Department and industry personnel.

Enhance the teamwork and efficiency of the Department, Industry, Municipalities, Testing/Inspection Agencies, and Consultants by training all individuals together.

Support the Department's Construction and Maintenance Programs through provision of appropriate training.

Support the Department's Quality Control and Quality Assurance Programs.

### Sec 115.01 SPECIFICATION REQUIREMENTS

Virginia Department of Transportation specifications require that the Contractor have present during the production, placement and testing of some materials a Certified Materials Technician. The following activities and the corresponding technicians summarize these specifications. Refer to the Virginia Department of Transportation Road and Bridge Specifications or the project contract documents for the actual specifications.

1. The production of Central Mix Aggregate requires the presence of a Certified Aggregate Plant Technician.

- 2. The production of Hot Mix Asphalt (HMA) requires the presence of a Certified Asphalt Plant Technician. Development and adjustment of HMA mix designs requires a Certified Asphalt Mix Design Technician.
- 3. The production of Concrete requires the presence of a Certified Concrete Plant Technician or Certified Concrete Batcher. Development and adjustments of concrete mix designs must be performed by a Certified Concrete Plant Technician.
- 4. The placement of HMA requires the presence of a Certified Asphalt Field Technician.
- 5. The placement of slurry seal requires the presence of a Certified Slurry Technician.
- 6. The placement of Concrete requires the presence of a Certified Concrete Field Technician.
- 7 The placement of pavement markings requires the presence of a Certified Pavement Marking Technician.

## Sec 115.02 CERTIFICATION APPLICATION

All candidates for Certification in the VDOT Materials Certification Program must read and sign an Application for Certification found in Appendix E.

### Sec 115.03 CERTIFICATION TITLES

School	Certification Title
Asphalt Field	Asphalt Field Technician
Asphalt Field	Slurry Technician
Asphalt Plant (Level I)	Asphalt Plant Technician
Asphalt Plant Mix Design (Level II)	Aggregate Properties Technician
Asphalt Plant Mix Design (Level II)	Asphalt Mix Design Technician
Concrete Field	Concrete Field Technician
Concrete Plant	Concrete Plant Technician
Central Mix Aggregate Plant	Central Mix Aggregate Technician
Soils and Aggregate Field	Soils Compaction Technician
Pavement Marking	Pavement Marking Technician

### Sec 115.04 STEPS REQUIRED FOR CERTIFICATION

To obtain certification in a selected program, the applicant has a choice of two procedures. The first procedure would be to attend a full school in the area they wish to become certified, pass a written examination and successfully complete a Proficiency Evaluation if required.

Approximately 4 - 6 weeks after passing the written examination, notification will be sent indicating completion of the classroom portion of the school. Upon successfully passing the written exam, a Proficiency Evaluation must be completed except in the Concrete Plant. The individual has until December 31<sup>st</sup> of the year in which they passed the written examination to successfully complete the Proficiency Evaluation. After successfully completing the Proficiency Evaluation, a Certification will be awarded. The Certification is good for five years. The Certification card has the expiration date printed on it. Expiration is five years from December 31<sup>st</sup> of the school year that the individual attended class.

If an individual does not successfully pass the written exam or the Proficiency Evaluation they may retake the part, or parts failed, **ONE TIME ONLY**. This must be done before December  $31^{\underline{st}}$  of the current school year. After December  $31^{\underline{st}}$  the individual must come back to the full school and pay the full fee again.

The second procedure for obtaining Certification is as a Self-Study student. The individual would take the examination and any required Proficiency Evaluation without attending a full school. The full course fee still applies. If a study guide is purchased prior to taking the examination, the price of the study guide may be deducted from the examination fee. If the student fails to pass either examination, they may retake the part, or parts failed, **ONE TIME ONLY**. This must be done before December  $31^{\text{st}}$  of the current school year. After December  $31^{\text{st}}$  the individual must

come back to the full school and pay the full fee again.

The Certification belongs to the individual, not their employer. Upon change of employment or location, the Central Office Materials Division Training Section should be notified to update the student's record.

### **Proficiency Evaluation Requirements**

Materials Certification Title	School	Proficiency Requirements	Contact Information
Aggregate Properties	Asphalt Plant Mix	ASTM D4791, ASTM D5821,	District Materials
	Design Level II	AASHTO T176, AASHTO	Office
		T304, AASHTO T84,	
		AASHTO T85, AASHTO T19	
Asphalt Field Technician	Asphalt Field	VTM-6, VTM-22, VTM-76,	District Materials
		Stratified Random Numbering	Office
Asphalt Plant Technician	Asphalt Plant (Level I)	AASHTO T30, AASHTO	District Materials
_	_	T166, AASHTO T209,	Office
		AASHTO T269, AASHTO	
		T312, VTM-102	
Asphalt Plant Mix Design	Asphalt Plant Mix	ASTM D4791, ASTM D5821,	District Materials
Technician	Design (Level II)	AASHTO T176, AASHTO	Office
	,	T304, AASHTO T84,	•
		AASHTO T85, AASHTO T19,	
		AASHTO T30, AASHTO	
		T312, VTM-102, AASHTO	
		T209, AASHTO T166,	
		AASHTO T283	
Central Mix Aggregate	Central Mix Aggregate	AASHTO T2, AASHTO T11,	District Materials
Technician	Plant	AASHTO T19, AASHTO T27,	Office
		AASHTO T248, AASHTO	••
		T255, AASHTO T89,	
		AASHTO T90	
Concrete Field Technician	Concrete Field	ACI Concrete Field Level I	Virginia Read-Mixed
		(ASTM C172, ASTM C1064,	ConcreteAssociationI
		ASTM C143, ASTM C31,	(VRMCA)
		ASTM C231, ASTM C173,	(434) 977-3716
		ASTM C138 )	
Concrete Plant Technician	Concrete Plant	No proficiency examination	No proficiency
		required	examination required
Pavement Marking	Pavement Marking	VTM-94	District Materials
Technician			Office
Slurry Technician	Asphalt Field	No proficiency examination	No proficiency
-	<u>^</u>	required	examination required
Soils Compaction Technician	Soils and Aggregate	AASHTO T217, VTM-10,	District Materials
_	Compaction	VTM-12, MARTCP SA-1.3	Office

## Sec 115.05 RECERTIFICATION

After successful completion of a full school, the individual is eligible to continue their Certification by completing an on-line Recertification Program and a Proficiency Evaluation in the particular subject area sometime during the last year of their current certification period.

It is the responsibility of the individual for completing the appropriate recertification requirements prior to the expiration of their certifications.

### Sec 115.06 EXTENSIONS

Extension of certifications will be considered on a case by case basis and approved by the State Materials Engineer.

### Sec 115.07 SUSPENSION OF CERTIFICATION

Certification is deemed to be a privilege that has been earned by an individual and may be suspended at any time if, in the opinion of the VDOT Technician Certification Review Board, an individual is thought to have knowingly committed acts that are detrimental to the integrity of the Certification Program or to the industry in general. All cases of potential certification suspension will be reviewed by the VDOT Technician Certification Review Board and they will recommend to the State Materials Engineer any action deemed appropriate. The State Materials Engineer will then make the final decision on what action will be taken, if any. The VDOT Technician Certification Review Board will be comprised of the following:

- The District Materials Engineer or designee (from District in which the incident occurs)
- The District Construction Engineer or designee (from District in which the incident occurs)
- The Materials Certification Schools Program Manager or designee

A suspension will be for a definitive amount of time as deemed appropriate based on the nature and severity of the infraction. Any individual who has their certification suspended will have to attend the appropriate Certification School and pass all required examinations to have their certification reinstated.

Acts that may result in suspension of certification include, but are not limited to the following:

- Falsification of field or quality control tests results and/or records
- Submitting false information that can be used for field or quality control test results
- Failure to perform specified duties
- Failure to follow appropriate testing or sampling procedures
- Display of any dishonest behavior during certification or re-certification

Any suspected inappropriate actions by an individual should be reported to the District Materials Engineer (DME) in the District in which the incident occurs. The DME has the authority to temporarily suspend an individual's certification pending review by the VDOT Technician Certification Review Board. The DME will notify the Materials Division Training Programs Manager, who will convene the VDOT Technician Certification Review Board. The Board will meet to review the incident as soon as practical. The individual will appear before the Board at that time.

Suspension of one Certification may be considered grounds for suspension of all Certifications held by the Technician. Further, any suspension of a Technician's Certification in any other

jurisdiction may result in the VDOT Technician Certification Review Board taking the same or other action, against a Technician's Certification in Virginia.

### Sec 115.08 EXEMPT CERTIFICATION STATUS

No exemptions will be granted.

### Sec 115.9 PROGRAM INSTRUCTORS

Instructors for the program come from VDOT Materials Division, Traffic Engineering, VDOT Regional Construction Quality Improvement Program and private industry. Although instruction must comply with VDOT procedures and specifications, we welcome and encourage the participation of industry in all parts of the program.

The Central Office Materials Division Training Section Staff assists instructors by providing visual aids, instructor training, videotape production, writing/editing of manuals and presentations, grading of examinations and maintenance of the program's database.

### Sec 115.10 PROGRAM EVALUATION

#### Students

Course evaluation forms are distributed to each student during class. These evaluations are a key to the overall success of this program, and are an important source for revisions in our curriculum and presentations.

#### **Examinations**

Examinations are all "open book". A valid photo ID must be presented prior to taking any examination.

Exams will typically be given on the Monday following the class for these schools: Central Mix Aggregate Plant, Asphalt Field, Concrete Plant and Soils & Aggregate Compaction.

Exams will be given on the afternoon of the last day of class for these schools: Asphalt Concrete Plant, Asphalt Concrete Plant Mix Design, Aggregate Properties, Concrete Field School and Pavement Marking.

Examinations may be taken at other locations by special arrangement. The Central Office Materials Division Training Section grades all examinations. The examination results of each class are compiled and analyzed. Frequently missed questions are evaluated and addressed by some combination of clarifying the question, highlighting the information in the manuals, asking the instructor to highlight the information or revising the question.

### **Advisory Teams**

At the end of each season, the teaching teams meet with the Central Office Staff to discuss and evaluate the past year's schools. Included in this meeting are various subject matter experts, both VDOT and Industry. Student evaluations and test results are compiled prior to this time and are presented at the meeting. From this information and the advice of the instructors, action plans are formed to adjust the teaching, curriculum, manuals and tests to best meet the needs of the students and the Department.

### Sec 115.11 STUDY GUIDES

Study guides are revised and printed annually. Instructor teams meet at the end of each school season to ensure the study guides contain accurate and up to date information. Changes or corrections are incorporated into the study guides before the next school season.

### Sec 115.12 SCHEDULING

Scheduling is done by the Central Office Training Section Staff along with the District School Coordinators. The District secures the classroom facilities and sends class schedules to industry in their District. Classes are generally held between January and the middle of April.

Scheduling of the schools is usually completed by early September. Districts in which schools will be held are determined according to estimated attendance. During the school year, registration numbers are monitored to determine if additional schools are needed.

Schedules may be obtained from the Materials Division Home Page on the VDOT Internet at www.virginiadot.org.

#### Sec 115.13 CLASS CANCELLATIONS

Every effort will be made to hold classes; however, weather conditions or low registrations may be justification for cancellation of a class. The District hosting the school will make every attempt to contact the students in the event of a cancellation. If the District Office closes due to inclement weather, the class will be cancelled also. If this happens contact the District Materials Office to make other arrangements. Cancellations will also be posted on the Materials Certification Schools Information Line (1-866-527-8656).

#### Sec 115.14 FEES FOR SCHOOLS

Fees for schools are subject to change. Current fees for Certification and Recertification Schools, may be found in the Materials Certification School Brochure.

The fee includes course attendance, manual and other materials, the examination and one retest.

Students may, if they feel qualified, take the examination without attending a full school. The full course fee still applies. If they purchase a study guide prior to taking the examination, the price of the study guide may be deducted from the full examination fee.

### <u>Sec 115.15 REFUNDS</u>

Full refunds are allowed only if notification is received at least four business days before the start of the class. Contact the District Materials Office where the class is being held. To process a refund the following information is needed:

Individuals Name, Company Name, Company address, Federal I.D. number of company, Name of class, Date(s) of class, District in which class was held, Amount to be refunded.

*Note:* The District Materials Engineer may elect to credit toward an upcoming class.

## <u>Sec 115.16 MID-ATLANTIC REGIONAL TECHNICIAN CERTIFICATION</u> <u>PROGRAM (MARTCP)</u>

#### Introduction

The Mid-Atlantic Region Technician Certification Program (MARTCP) is comprised of the States of New Jersey, Pennsylvania, Delaware, Virginia, West Virginia, Maryland and the District of Columbia and the Federal Highway Administration. The initial push for this program came from each state realizing that they were duplicating training efforts, along with the FHWA's requirement (23 CFR 637), that each state have a training program to insure qualified personnel are available to accomplish sampling, testing, and inspections of materials. This organization is dedicated to raising the knowledge level of technicians performing hands-on testing of products, inspection and services provided to the transportation industry.

The agencies participating in the MARTCP have agreed to develop core programs in hot mix asphalt, concrete, soils and aggregates, and pavement markings. Additional programs may be added in the future as needs are identified. The MARTCP Agencies have also agreed to include "best practices" as a portion of each technical program.

Agency specifications will not be included as part of the MARTCP manuals, but will be covered separately by each Agency. The purpose of the manuals is not to supersede Agency specifications, but to compliment Agency specifications and provide the MARTCP Agencies with the confidence that a minimum required level of knowledge has been attained by each technician certified through the Mid-Atlantic Region Program.

#### *Implementation*

VDOT curricula incorporate current MARTCP curricula. All other participating state agencies are scheduled to begin implementation by 2007 with the establishment of a MARTCP website and certification database by an outside administrator.

### Reciprocal Agreements

The long-term goal of MARTCP is to provide a regional technician certification program that will be recognized by all of the participating organizations. The MARTCP certifications would be valid in all the participating states with each state requiring knowledge of state specific procedures not covered in the MARTCP program.

VDOT recognizes all participating MARTCP states' certifications and will issue a Letter of Reciprocal Certification upon request. A fee outlined in the Materials Certification Brochure and proof of original certification is required. Interested parties should contact the Materials Division Training Section.

# Appendix E – Application for VDOT Materials Technician Certification



### APPLICATION FOR VDOT MATERIALS TECHNICIAN CERTIFICATION

This is to affirm thathereinafter "Technician,"			_ (Technician's Na	ıme),
hereinafter "Technician,"	desires to be			
this Application, Technician and responsibilities. The ri certified by VDOT, to perfaceptance, quality control and reporting tests with the with the required test proced	acknowledges and agr ghts include being ex orm sampling, testing and assurance progra accuracy and precisio	rees that Certification clusively sanctioned and reporting of ms. The responsibi	ed, along with other f test results for qu ilities include perfort	ights s so ality ming
By signing this Application, regulations, specifications, in performed under the Certification Revand responsibilities conferred may be considered a revocular further, any suspension or may result in the VDOT Technician's Certification.	edustry standards, proc ication. A violation of iew Board may result d on the Technician. R ation or suspension of revocation of Technic anician Certification Re	cedures, and policie of the above as do in a suspension of evocation or susper f all Certifications ian's Certification	es, applicable to any vetermined by the VI revocation of the rinsion of one Certificate held by the Technication any other jurisdic	work DOT ights ation cian. ction
By signing below, Technician may govern construction pro 1020, that states, in pertinent	ojects in Virginia, incl	uding Title 18, Un	ited States Code, Sec	ction
"Shall be fined not more tha	n \$10,000 or imprison	ed not more than fi	ive years, or both."	
<i>I</i> ,	(Print Name), a	ffirm that I have re	ead and fully unders	tand
the foregoing "APPLICATI to be bound by these terms.				
Technician's Signature				

### CY:

Commissioner
Chief Engineer
Division Administrators
Residency Administrators
District Materials Engineers
District Construction Engineers
District Maintenance Engineers
American Concrete Paving Association
NE Chapter, Southern Region

Virginia Asphalt Association Virginia Dept. of Minority Business Enterprise Virginia Ready-Mixed Concrete Association Federal Highway Administration Virginia Transportation Construction Alliance Precast Concrete Association of Virginia